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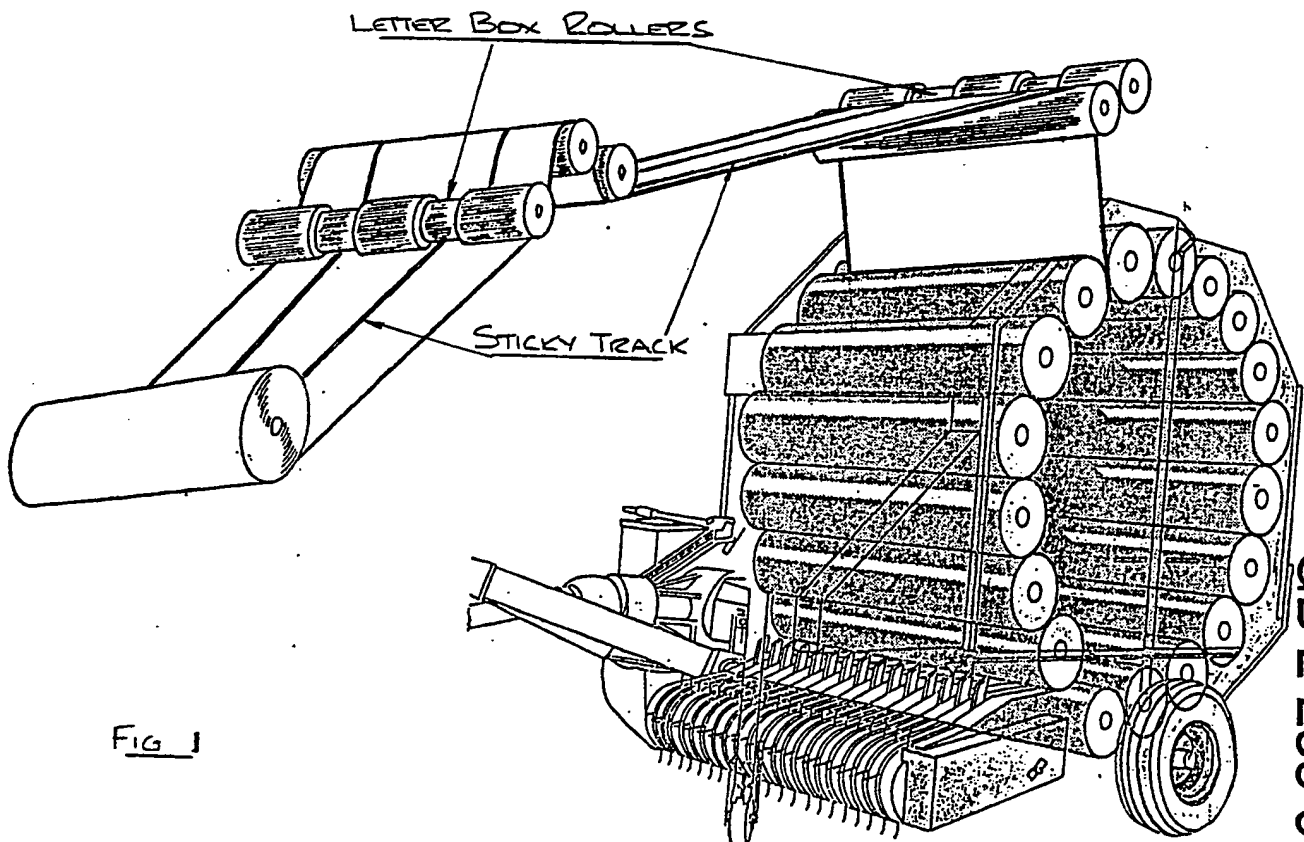
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(54) Film for wrapping hay bale

(57) A hay bale is wrapped with a plastics film having strips of pressure sensitive material thereon, so that the strips of one layer stick to the bale, and those of a second layer stick to the first. Feed rollers in the baling machine are recessed to accommodate the strips.



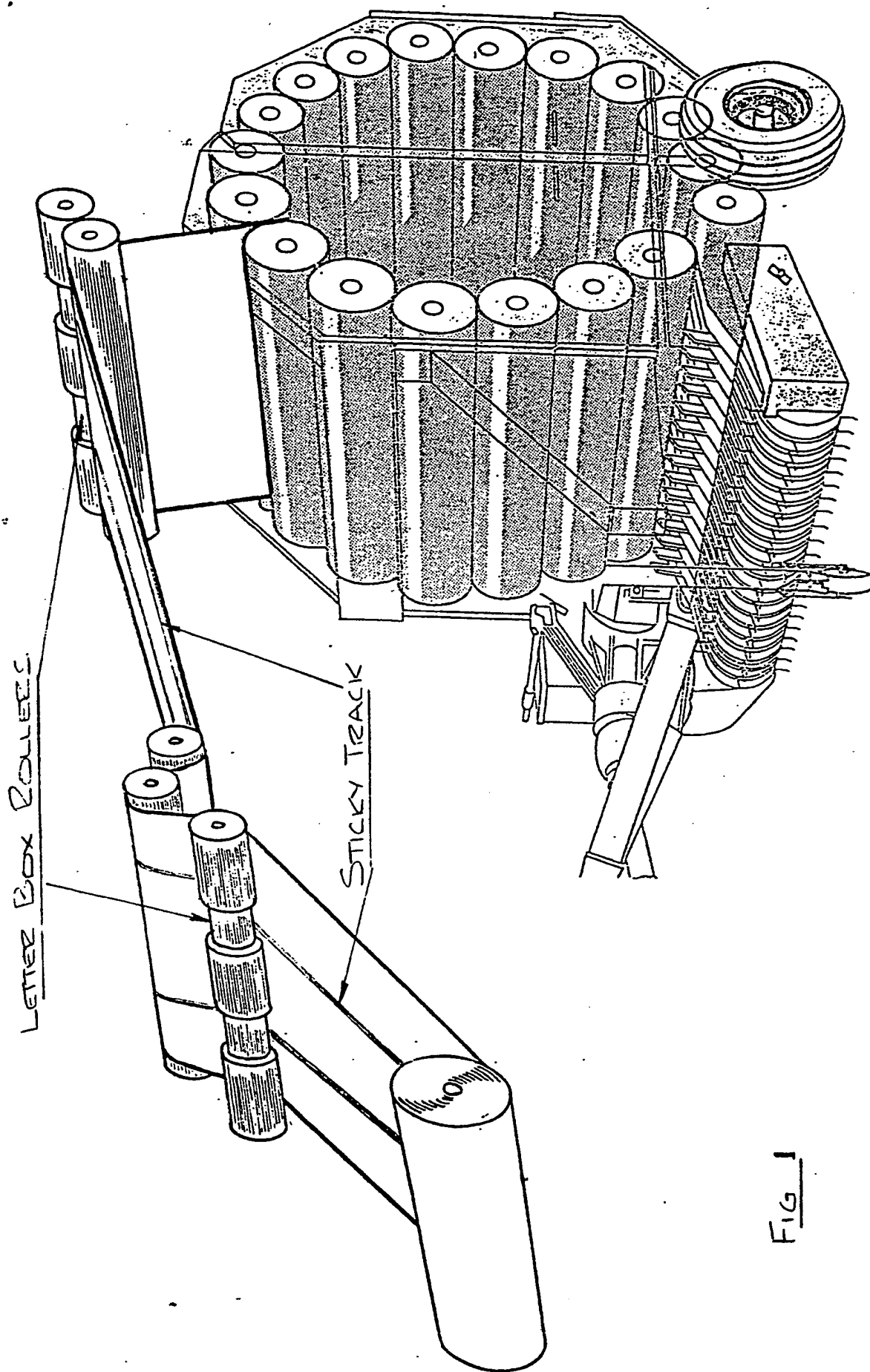


Fig. 1

It has been traditional to bind bales of hay and straw with twine or netting which has been threaded and wrapped round the periphery of the bale in the big round bale chamber prior to it being ejected - when ejected the twine or net restrains the bale from expanding and keeps it tight until the wrapping of twine or net is removed when the bale is used.

However the twine or net does not keep out the rain, and the outside of the bale, if not stored inside a covered barn, becomes wet and is therefore wasted.

What we propose to do is to wrap the bale, in the bale chamber with impermeable plastic film so that when ejected it may be stored outside, and have the ability to keep the rain out. The two problems in applying wrapping with plastic in the bale chamber are two fold.

1. The film tends to escape through the feed mouth when the loose film material is fed in, and so does not attach itself to the outside of the material being baled and
2. When the bale is ejected the loose plastic film does not restrain the expansion of the baled material and to avoid this it is usually prior wrapped with twine or net to contain the baled material, and even in this case the plastic film is loose ended and can fall away from the bale, in which case manual operation has to be adopted to sticky tape the loose ends together.

What we propose to overcome these two problems is to manufacture the plastic film with one or more sticky tracks, which when unrolled are exposed and on feeding the film into the bale chamber the sticky track attaches itself to the outside of the bale and is taken round as the bale rotates. When the rotation occurs a second time the sticky track attaches itself to the first layer and forms a bond so that after the film has been cut and the bale

ejected the two layers of plastic are unable to shift laterally as they are stuck together by the pressure sensitive adhesive and in this way the material baled is restrained and the plastic does not become loose and fall away from the bale. Thus the bale has an outer impermeable layer which sheds the rain, and if the bales are pressed flat sides together they may form a long tube stack which will avoid the bales getting wet. Therefore there is little or no loss of the material baled, and also in cold weather the difficulty of stripping twine or net from a frozen outer wet bale covering is avoided.

It is essential however to use such sticky track film (pressure sensitive) with the appropriate type of baler, which has special letter box recessed rollers. The two rollers which are nipped together to unwind the roll of plastic are recessed to allow the sticky track film to pass through without contact. This is shown in Fig I where the intake pair of rollers are recessed on one side (the sticky side of the plastic film) to avoid pressure contact with the incoming plastic film. Every roller on the sticky side has to be recessed to guide the sticky track material into the bale chamber without pressurising the sticky track pressure sensitive adhesive.

We pray that a Patent may be granted to us for this special sticky track plastic film and for the baler with special recessed feed rollers. A special plastic film which is a reel of polythene which is treated with special adhesive material at intervals across its width. These sticky tracks serve two purposes one when fed into the bale chamber, the sticky side adheres to the material being baled and so is guided coherently round the bale periphery of the bale and when the bale is rotated for the second time the sticky track adheres to the film of the previous wrap, and then when ejected from the bale chamber the two layers of material being stuck together are unable to slip laterally and so contain this bale under pressure as it has been in the bale chamber.

With reference to Patent application No.89 10447.5

WE CLAIM

1. Special polythene or other plastic film is treated in the factory with one or more adhesive tracks; these then behave coherently when the sticky sided material attaches itself to the bale in the bale chamber.

2. This sticky track material is fed into the bale chamber through special nip rollers, where one of them is equipped with recesses which do not press the sticky film together.

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